

CLAIMS

I claim:

1. A device for measuring temperature in a metal melt, comprising an optical fiber (2) connected directly or indirectly to a measurement instrument and held by a carrier (6), the optical
5 fiber (2) having an immersion end which is guided through a melt-consumable body (1), wherein the consumable body (1) exhibits a consumption rate in the melt of at most 10 cm/min and wherein the consumption rate is approximately equal to or greater than a rate at which the optical fiber (2) is destroyed.
2. The device according to Claim 1, wherein the body (1) exhibits a consumption
10 rate of at most 1 cm/min.
3. The device according to Claim 1, wherein the consumable body (1) has a higher melting point than iron and is insoluble in molten iron.
4. The device according to Claim 1, wherein the consumable body (1) comprises at
15 least one material selected from the group consisting of molding sand, refractory cement, and bonded fly ash.
5. The device according to Claim 1, wherein the fiber (2) comprises quartz glass.
6. The device according to Claim 1, wherein the fiber (2) is at least partially surrounded by a metal tube.
7. The device according to Claim 6, wherein the tube is a steel tube.
- 20 8. The device according to Claim 1, wherein the fiber (2) is connected to a detector (8).
9. The device according to Claim 8, wherein the detector (8) is arranged in the consumable body (1).
10. The device according to Claim 1, wherein a consumption sensor is arranged in
25 the consumable body (1).
11. The device according to Claim 1, wherein mechanical stabilizers (4) are arranged in the consumable body (1).

12. The device according to Claim 1, wherein the consumable body (1) is detachably arranged at one end of the carrier (6).

13. The device according to Claim 1, wherein electrical and/or optical signal lines in the consumable body (1) are connected by electrical and/or optical contacts to a connector (10) in the carrier (6).

14. The device according to Claim 1, wherein the optical fiber (2) comprises an endless fiber.

15. The device according to Claim 1, wherein the optical fiber (2) is movably arranged in the carrier (16) and/or the consumable body (1).

16. A method for measuring temperature in a metal melt with an optical fiber (2), connected directly or indirectly to a measurement instrument and held by a carrier (6), wherein an immersion end of the fiber (2) is guided through a melt-consumable body (1) held on the carrier (6), the method comprising immersing the immersion end of the fiber (2) together with at least one part of a first consumable body (1) at least once into the metal melt, detaching the first consumable body (1) after at least partial consumption of the carrier (6), and replacing the first consumable body (1) by a second consumable body (1), and continuously feeding the fiber (2) through the second body (1).